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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,145	11/26/2003	Dattatreya Ramesh Panse	3876	9236
22474	7590	03/08/2007	EXAMINER	
CLEMENTS WALKER 1901 ROXBOROUGH ROAD SUITE 300 CHARLOTTE, NC 28211			SALVATORE, LYNDA	
			ART UNIT	PAPER NUMBER
			1771	
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	03/08/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/723,145	PANSE, DATTATREYA RAMESH	
	Examiner	Art Unit	
	Lynda M. Salvatore	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A. SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 04 December 2006.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-3,5-17,19-32 and 35-39 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-3,5-8,11-17,19-22,25-28 and 35-39 is/are rejected.
 7) Claim(s) 9,10,23,24 and 29-32 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____

5) Notice of Informal Patent Application
 6) Other: _____

DETAILED ACTION*Response to Amendment*

1. Applicant's amendment and accompanying remarks filed 12/04/06 have been fully considered and entered. Claims 1-3,5-7,15-17,22-23,28 and 35-39 have been amended and claims 4,18 and 33-34 are canceled. Applicant's remarks regarding the double patenting rejections set forth in sections 2-3 of the Office Action dated 6/5/06 are found persuasive. As such, these rejections are hereby withdrawn. Applicant's amendments to claims 1 and 35 are found sufficient to overcome the obviousness rejections set forth in section 8 of the Office Action dated 6/5/06. Specifically, the combination of prior art fails to the limitation of providing an extruded thermoplastic polyurethane resin in conjunction with the extruded polyurethane adhesive. As such, these rejections are hereby withdrawn. However, Applicant's amendments are not found patently distinguishable over the prior art of Morikawa et al., US 6,309,507 and upon further consideration of Applicants amendments the following new ground of rejections are set forth herein below.

Claim Rejections - 35 USC § 102/103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claim 15-16, 22, 25-28 and 39 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Morikawa et al., 6,309,507.

Applicants amended claim 15 to recite the adhesive activation temperature and further comprising uretdione and the Shore A Durometer of the thermoplastic

polyurethane resin. Applicants further recite that the laminate is a composite that is further assembled into a collapsible structure, which is hydrolytically stable and substantially inert following assembly.

Applicants argue that the prior art of Morikawa et al., fail to teach the claimed thermoplastic polyurethane resin, the claimed uretdione having the claimed activation temperature, or how the adhesive is used or applied. Specifically, Applicants argue that Morikawa et al., is directed to employing the adhesive in film lamination that require post curing whereas the instant invention does not claim a film laminate. Applicants assert that Morikawa et al., only briefly mentions employing the adhesive on fabrics. Applicants also argue that Morikawa et al., employ solvents whereas solvents are not used with a material extruded at the temperatures required to extrude the thermoplastic polyurethane (TPU) adhesive and thermoplastic polyurethane resin (TPU), therein forming the instantly claimed composite. Applicants also argue the Examiner's reliance on *In re Stephens*, 145 USPQ 656 and *In re Marosi*, 218 USPQ 289,292 on the grounds that the prior art product and the instant product are not the same or similar. These arguments are not found persuasive.

With regard to Applicants argument that the prior art of Morikawa et al., does not teach the claimed TPU resin or the claimed TPU adhesive comprising uretdione having the claimed activation temperature, it is respectfully pointed out that Morikawa et al., teach a polyisocyanate curing agent adhesive composition comprising a polyurethane base resin, a blocked isocyanate curing agent, and a solvent (Title, column 2,10-40, column 9, 24-40, column 9, 53-60). Morikawa teach employing polyurethane with two pendant hydroxyl groups (column 6, 22-28). Morikawa et al., teach poly-diisocyanates or

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uretdione bond containing polyisocyanates (column 5, 65-column 6, 10). Morikawa et al., teach the claimed uretdione compounds (column 2, 15-40). Morikawa et al., teach that the aromatic diisocyanate may be used singly or admixture of two kinds (column 2, 30-45). As such, the Examiner considers a disclosure directed to providing a mixture of polyurethane resins wherein at least once comprises uretdione meets the limitation of providing the claimed TPU adhesive and TPU resin mixture.

With regard to Applicants arguments that the adhesive mixture of Morikawa et al., employ solvents whereas the instant claims do not use solvents with the claimed adhesive TPU and TPU resin mixture at the temperatures required to extrude the TPU adhesive and TPU resin, the Examiner respectfully points out that Morikawa et al., teach extrusion lamination and Applicants claims do not exclude the addition of solvents.

With regard to Applicants arguments that Morikawa et al., is directed to film on film lamination, it is respectfully pointed out that Applicants adhesive resin mixture is not limited to exclude films. In other words, there is nothing on record to limit claim 15 to exclude a film comprising the claimed TPU mixture that can be further laminated to a fabric substrate.

With regard to Applicants arguments that Morikawa et al., is directed to film lamination and only briefly mentions employing the adhesive on fabric substrates, it is the position of the Examiner that though fabric substrates are not necessarily preferred it would be improper to ignore the disclosure directed to the alternative embodiments employing said fabrics. The fact remains that Morikawa et al., teach that adhesive composition can be extrusion laminated onto fabric substrates.

With regard to Applicants arguments directed to the Examiner's reliance on *In re Stephens*, 145 USPQ 656 and *In re Marosi*, 218 USPQ 289,292, the Examiner respectfully disagrees with Applicant. It is the position of the Examiner that the prior art product is the same or similar to the claimed product. Specifically, the prior art teach claimed adhesive mixture extruded onto a fabric substrate.

Recall, the patent issued to Morikawa et al., teach a polyisocyanate curing agent adhesive composition comprising a polyurethane base resin, a blocked isocyanate curing agent, and a solvent (Title, column 2,10-40, column 9, 24-40, column 9, 53-60). Morikawa teach employing polyurethane with two pendant hydroxyl groups (column 6, 22-28). Morikawa et al., teach poly-diisocyanates or uretidione bond containing polyisocyanates (column 5, 65-column 6, 10). Morikawa et al., teach the claimed uretdione compounds (column 2, 15-40). Morikawa et al., teach the use of carbodiimide (column 2, 32). Morikawa et al., teach that the aromatic diisocyanate may be used singly or admixture of two kinds (column 2, 30-45). As such, the Examiner considers a curing agent mixture comprising a blocked isocyanate such as those set forth above and carbodiimide sufficient to meet the limitation of further providing a hydrolytic stabilizer. In other words, the Examiner considers carbodiimide sufficient to meet the limitation of hydrolytic stabilizer. Morikawa et al., teach various suitable solvents such the claimed ketones, ethers, and esters (column 9,24-41). Morikawa et al., teach that the polyurethane curing adhesive is suitable is useful on a variety of substrates including non-woven fabrics (column 9, 60-65). With regard to claim 22, Morikawa et al., teach that the resin is cross-linked (column 9, 43-50).

With specific regard to the manipulative method steps, processing conditions and apparatus recited in claim 16, it is the position of the Examiner that said limitations are not germane to the final product. The presence of process limitations on product claims in which the product does not otherwise patentably distinguish over the prior art, cannot impart patentability to the product. *In re Stephens*, 145 USPQ 656

Although produced by a different process, the claimed product appears to be the same or similar to the product provided by the combination of prior art. As such, the burden shifts to Applicant to come forward with evidence establishing an obvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289,292.

Specifically, with regard to the limitations directed to the subsequent assembly of the laminate, the Examiner considers such limitations a further intended use of the laminate composite. Since, the prior art of Morikawa et al., meets the chemical and/or structural limitations presently set forth there is nothing on record to evidence the laminate composite of Morikawa et al., could not be further assembled as instantly claimed.

With regard to claimed Shore A Durometer value and activation temperature ranges, Morikawa et al., does not teach said values, however, it is reasonable to expect that the claimed Shore A Durometer value and activation temperature range are inherent to laminate formed by Morikawa et al. Support for said argument is found in the use of like materials such as adhesive mixture comprising polyurethane having pendant hydroxyl groups and uretdione and fabric, which would result in the claimed Shore A

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Durometer value and activation temperature range. The burden is shifted to Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594

In addition, the presently claimed Shore A Durometer value and activation temperature range would obviously have been present once the Morikawa adhesive mixture is provided. *In re Best*, 195 USPQ 433

With regard to claim 39, Morikawa et al., does not teach the performance of the seams formed after heating, however, it is reasonable to expect that the claimed acceptable seam performance would be inherent to heat resistant laminate formed by Morikawa et al. Support for said argument is found in the use of like materials such as adhesive polyurethane having pendant hydroxyl groups and fabric and like processes such as extrusion lamination, which would result in the claimed acceptable seam performance. The burden is shifted to Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594

In addition, the presently claimed acceptable seam performance would obviously have been present once the Morikawa adhesive is provided. *In re Best*, 195 USPQ 433

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 1-8, 11-14,17-21 and 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hays, US 2004/0058603 in view of Morikawa et al., 6,309,507.

The patent issued to Hays teaches a tarp composite/laminate comprising a scrim fabric layer with a layer of polyurethane adhesive and another layer of polyurethane film overlaying the adhesive layer (section 0077 and 0080). Hays teaches extrusion coating

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the layers onto the fabric (section 0211). With regard to claims 8 and 22, Hays teaches adding cross-linking agents to the layers (section 0101)

Hays fail to teach the claimed adhesive composition, however, the patent issued to Morikawa et al., teach a polyisocyanate curing agent adhesive composition comprising a polyurethane base resin, a blocked isocyanate curing agent, and a solvent (Title, column 2,10-40, column 9, 24-40, column 9, 53-60). With regard to claim 3, Morikawa teach employing polyurethane with two pendant hydroxyl groups (column 6, 22-28). With regard to claim 6, Morikawa et al., teach poly-diisocyanates or uretidione bond containing polyisocyanates (column 5, 65-column 6, 10). With regard to claim 7, Morikawa et al., teach the claimed uretdione compounds (column 2, 15-40). With regard to claims 11-12, Morikawa et al., teach the use of carbodiimide (column 2, 32). Morikawa et al., teach that the aromatic diisocyanate may be used singly or admixture of two kinds (column 2, 30-45). As such, the Examiner considers a curing agent mixture comprising a blocked isocyanate such as those set forth above and carbodiimide sufficient to meet the limitation of further providing a hydrolytic stabilizer. In other words, the Examiner considers carbodiimide sufficient to meet the limitation of hydrolytic stabilizer. With regard to claims 13-14, Morikawa et al., teach adding various additives such those recited (column 9, 10-22). Said adhesive composition is suitable for use in packaging applications (column 1, 10-20). Said adhesive composition can be applied by extrusion lamination (column 10, 25-30). Said adhesive composition exhibits excellent heat resistance and durability (column 1, 45-50).

Therefore, motivated by the desire to provide a heat resistant laminate film with excellent heat resistance and durability, it would have been obvious to one having

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ordinary skill in the art to form the laminate taught by Hays with the polyisocyanate curing agent adhesive composition taught by Morikawa et al.

With specific regard to the manipulative method steps, processing conditions and apparatus recited in claims 1,2, 35 and 36, it is the position of the Examiner that said limitations are not germane to the final product. The presence of process limitations on product claims in which the product does not otherwise patentably distinguish over the prior art, cannot impart patentability to the product. *In re Stephens*, 145 USPQ 656

Although produced by a different process, the claimed product appears to be the same or similar to the product provided by the combination of prior art. As such, the burden shifts to Applicant to come forward with evidence establishing an obvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289,292.

With regard to the limitations directed to the subsequent assembly of the laminate into a collapsible tank structure, the Examiner considers such limitations a further intended use of the laminate composite. Since, the prior art of Hays in view of Morikawa et al., meets the chemical and/or structural limitations presently set forth there is nothing on record to evidence the laminate composite provided by the combination of Hays in view Morikawa et al., could not be further assembled as instantly claimed.

With regard to claims 5 and 19-21, the combination of prior art is silent with respect to the degree of crystallinity of the polyurethane resin, however, it is the position of the Examiner that the claimed level of crystallinity is inherent to the polyurethane resin taught by the prior art. Support for said presumption is found in the use of like materials

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such as polyurethane having hydroxyl groups, which would result in the claimed medium to high level of crystallinity.

With regard to claims 37 and 38, the combination of prior art does not teach the performance of the seams formed after heating, however, it is reasonable to expect that the claimed acceptable seam performance would be present in the laminate formed by the combination of prior art. Support for said argument is found in the use of like materials such as a laminate comprising adhesive polyurethane having pendant hydroxyl groups, thermoplastic polyurethane film and fabric and like processes such as extrusion lamination.

With regard to claimed Shore A Durometer value and activation temperature ranges the combination of Hays in view of Morikawa et al., does not teach said values, however, it is reasonable to expect that the claimed Shore A Durometer value and activation temperature range are inherent to laminate formed by the combination of Hays in view of Morikawa et al. Support for said argument is found in the use of like materials such as adhesive mixture comprising polyurethane having pendant hydroxyl groups and uretdione, thermoplastic polyurethane and fabric, which would result in the claimed Shore A Durometer value and activation temperature range. The burden is shifted to Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594

In addition, the presently claimed Shore A Durometer value and activation temperature range would obviously have been present once the laminate of Hays in view of Morikawa is provided. *In re Best*, 195 USPQ 433

Allowable Subject Matter

6. Claims 9-10, 23-24 and 29-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Specifically, the prior art of record fails to teach the claimed cross-linking enhancers. An updated art search did not produce any new substantial art for which to base a rejection and presently no motivation exists to form an obviousness type rejection.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynda M. Salvatore whose telephone number is 571-272-1482. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

March 2, 2007

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A handwritten signature in black ink, appearing to read "Linda Jahn".